

09/458,897  
Page 2 of 22

### **AMENDMENTS FOR THE CLAIMS**

This listing of claims replaces all prior versions, and listings of claims in the application.

Please consider the claims as follows:

#### **Listing of Claims:**

1. (currently amended) A method of distributing and sharing processing loads and increasing fault tolerance between provider equipment and subscriber equipment of an interactive information distribution system, comprising the steps of:

receiving, at a head-end, a request for video information from said subscriber equipment;

executing a video session from at least one of a plurality of managing modules on a primary head-end controller at said head-end;

dedicating, at said head-end, at least one secondary head-end controller respectively having said at least one managing module as a reserve-resource for executing said video session, wherein said executing said video session comprises concurrently executing said video session on at least one distributed managing module associated with each of said primary head-end controller and said at least one secondary head-end controller;

storing session-state data from said executed video session on at least one storage device; and

streaming, from a stream server, said video information to said requesting subscriber equipment during a normal mode of operation.

2. (canceled)

3. (currently amended) The method of claim 2, ~~comprising the step of: 1, wherein said executing said video session from said at least one managing module on further comprises executing said video session on at least one non-distributed managing module associated with said primary head-end controller wherein said managing module is non-distributed.~~

283796-1

09/458,897  
Page 3 of 22

4. (original) The method of claim 3, comprising the steps of:

processing said session-state data through said at least one distributed managing module concurrently on said primary head-end controller and said at least one secondary head-end controller, wherein said at least one distributed managing module on said primary head-end controller and said at least one secondary head-end controller is in an active mode; and

processing said session-state data from said at least one non-distributed managing module on said primary head-end controller, wherein said at least one non-distributed managing module on said primary head-end controller is in an active mode, and wherein said at least one non-distributed managing module on said secondary head-end controller is in a standby mode.

5. (original) The method of claim 4, a method comprising the steps of:

processing said session-state data produced by said primary head-end controller via said at least one secondary head-end controller in a failure mode of operation, wherein said primary head-end controller becomes inoperative.

6. (Original) The method of claim 5, comprising the steps of:

streaming video information from a stream server to an access controller in said normal mode of operation, wherein said primary head-end controller manages said video session between said stream server and at least one access controller; and

streaming video information from said stream server to said access controller in said failure mode of operation, wherein said secondary head-end controller manages said video session between said stream server and said access controller.

7. (currently amended) The method of claim 1, comprising the steps of:

storing said session-state data produced by said primary head-end controller on said at least one non-volatile storage device coupled to said primary head-end controller; and

283786-1

09/458,897  
Page 4 of 22

storing said session-state data produced by said at least one secondary head-end controller on said at least one non-volatile storage device coupled to said primary head-end controller.

8. (previously presented) The method of claim 7, wherein said at least one storage device comprises a plurality of storage devices, said method further comprising the step of:

replicating said stored session-state data from one of said plurality of storage devices coupled to said primary head-end controller, to each of the remaining storage devices of said plurality of storage devices coupled to said at least one secondary head-end controller; and

wherein said at least one secondary head-end controller retrieves said session-state data executed by said managing modules of said primary head-end controller for continuing said video session with said subscriber equipment.

9. (currently amended) The method of claim 1, further comprising the steps of:

storing said session-state data produced by said primary head-end controller on a volatile memory device coupled to said primary head-end controller; and

storing said session-state data produced by said at least one secondary head-end controller on said volatile memory device coupled to said primary head-end controller.

10. (currently amended) The method of claim 9, comprising the step of:

replicating said stored session-state data from said volatile memory device coupled to said primary head-end controller, to at least one volatile memory device coupled to said at least one secondary head-end controller; and

wherein said at least one secondary head-end controller retrieves said session-state data executed by said managing modules of said primary head-end controller for continuing said video session with said subscriber equipment.

11. (currently amended) In an interactive video distribution system including information provider equipment and subscriber equipment, apparatus comprising:

283796-1

09/458,897  
Page 5 of 22

a stream server;  
a plurality of head-end controllers, coupled to said stream server, for managing a video session at a head-end, each head-end controller comprising a plurality of managing modules for executing said video session, wherein at least one of said managing modules processes session-stage data of said video session through both primary head-end controller and said at least one secondary head-end controller; and  
a plurality of access controllers, coupled to said plurality of head-end controllers, for interacting with said subscriber equipment during said video session to responsively provide video information to said subscriber equipment upon a request for video information from said subscriber equipment.

12. (currently amended) The apparatus of claim 11, wherein each head-end controller of said plurality of head-end controllers further comprises:

~~a plurality of managing modules for executing said video session;~~  
a processor for processing session-state data produced by said plurality of managing modules; and  
memory devices, coupled to said processor, for temporarily storing said session-state data.

13. (original) The apparatus of claim 12 wherein said plurality of head-end controllers comprises a primary head-end controller and at least one secondary head-end controller.

14. (original) The apparatus of claim 13, wherein:

in a normal mode of operation, said primary head-end controller interacts with said stream server to provide said video information to said subscriber equipment, and said at least one secondary head-end controller remains in a standby mode; and

in a failure mode of operation, said primary head-end controller is inoperative, and said at least one secondary head-end controller interacts with said stream server to provide video information to said subscriber equipment.

283796-1

09/458,897  
Page 6 of 22

15. (currently amended) The apparatus of claim 14, wherein said plurality of managing modules comprise:

~~at least one distributed managing module, for processing session-state data through both primary head-end controller and said at least one secondary head-end controller concurrently; and~~

at least one non-distributed managing module, for processing session-state data by said primary head-end controller.

16. (original) The apparatus of claim 15, wherein:

In a failure mode of operation, a portion of said plurality of access controllers coupled to said Inoperable primary head-end controller interface with said secondary head-end controller, whereby all of said plurality of access controllers are interfacing with said at least one secondary head-end controller, to responsively interact with said subscriber equipment.

17. (original) The apparatus of claim 16, wherein:

in a failure mode of operation, said at least one distributed managing module and said at least one non-distributed managing module executes said video session through said at least one secondary head-end controller.

18. (original) The apparatus of claim 17 further comprising:

a centrally networked storage device coupled to said primary head-end controller and said at least one secondary head-end controller, for centrally storing said session-state data produced by said plurality of managing modules; and

in said failure mode of operation, said at least one secondary head-end controller retrieves said session-state data stored on said centrally networked storage device by said primary head-end controller, for continued interaction with said stream server to provide said video information to said subscriber equipment.

19. (original) The apparatus of claim 17, further comprising:

283796-1

09/458,897  
Page 7 of 22

a plurality of local storage devices, coupled to said primary head-end controller and said at least one secondary head-end controller, for locally storing said session-state data produced by said plurality of managing modules.

20. (original) The apparatus of claim 19, wherein:

said session-state data is replicated from one of said plurality of local storage devices coupled to said primary head-end controller, and stored on the remaining plurality of local storage devices of said at least one secondary head-end controller.

21. (previously presented) The apparatus of claim 20, wherein:

In a failure mode of operation, said at least one secondary head-end controller retrieves said replicated session-state data stored on said remaining plurality of storage devices, for continued interaction with said stream server to provide said video information to said subscriber equipment.

283796-1